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**PLANEX COMMUNICATIONS INC.**



Wireless 4 Port Broadband Router

**BLW-04EX**

**PLANEX COMMUNICATIONS INC.**

# **USER'S MANUAL**

Wireless 4 Port Broadband Router

**BLW-04EX**

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## FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user's guide, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
  - Increase the separation between the equipment and the receiver
  - Connect the equipment into an outlet on a circuit different from the one which the receiver is connected to
- 

Consult the dealer or an experienced radio/TV technician for help. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Warnings: Wear an antistatic wrist strap to take other suitable measures to prevent electrostatic discharge whenever handling the equipment.

## CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

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Congratulations on your purchase of a Barricade™ Wireless Cable/DSL Broadband Router. PCI is proud to provide you with a powerful yet simple communication device for connecting your local area network (LAN) to the Internet. For those who want to surf the Internet at the lowest possible cost, the BLW-04EX™ is the convenient, easy solution.

## **1 – 1 About the BLW-04EX**

About the BLW-04EX

The BLW-04EX provides Internet access to multiple users by sharing a single-user account. The BLW-04EX features a WAN interface that allows you to connect either a DSL or cable modem. The BLW-04EX provides extensive firewall protection services.

The BLW-04EX provides many cost-effective functions and management benefits. It is simple to configure and can be up and running in minutes.

## **1 – 2 Features and Benefits**

Internet connection to DSL or cable modem via a 10/100 Mbps WAN port  
Local network connection via 10/100 Mbps Ethernet ports or 11 Mbps wireless interface (supporting up to 128 mobile users)

802.11b Compliant – interoperable with multiple vendors  
Provides seamless roaming within 802.11b WLAN environment  
DHCP for dynamic IP configuration, and DNS for domain name mapping  
Firewall with Stateful Packet Inspection, client privileges, hacker prevention, DoS, and NAT

NAT also enables multi-user access with a single-user account, and virtual server functionality (providing protected access to Internet services such as web, mail, FTP, and Telnet)

User-definable application sensing tunnel supports applications requiring multiple connections

Parental controls allows the user to limit certain web sites  
 Email alerts when the users network is being compromise  
 Easy setup through a web browser on any operating system that supports TCP/IP  
 Compatible with all popular Internet applications

## 1 – 3 Applications

Many advanced applications are provided by the BLW-04EX, such as:

### LAN Access

The BLW-04EX provides connectivity to 10/100 Mbps devices, making it easy to create a network in small offices or homes.

### Internet Access

This device supports Internet access through a DSL or cable connection. Since many DSL providers use PPPoE to establish communications with end users, the BLW-04EX includes a built-in client for this protocol, eliminating the need to install this service on your computer.

### Shared IP Address

The BLW-04EX shares a single IP address with up to 253 users. Using only one ISP account, multiple users on your network can simultaneously browse the Internet.

### Virtual Server

If you have a static IP address, you can set up the BLW-04EX to act as a virtual host for network address translation. Remote users access various services at your site using the static IP address. Then, depending on the requested service (or port number), the BLW-04EX routes the request to the appropriate server (at an internal network IP address). This secures your

network from direct attack by hackers, and provides more flexible management by allowing you to change internal network IP addresses without affecting outside access to your network.

### User-Definable Application Sensing Tunnel

You may define special applications that require multiple connections such as Internet gaming, video conferencing, and Internet telephony. The BLW-04EX will then sense the application type and open a multi-port tunnel for it.

### DMZ Hosts Support

Allows a networked computer to be fully exposed to the Internet. This function is used when the special application sensing tunnel feature is insufficient to allow an application to function correctly.

### Security

The BLW-04EX supports security features that deny Internet access to specified users, or drop requests for specific services. The BLW-04EX's firewall also blocks common hacker attacks, including IP Spoofing, Land Attack, Ping of Death, IP with zero length, Smurf Attack, UDP port loopback, Snork Attack, TCP null scan, and TCP SYN flooding.

Before installing the BLW-04EX™, verify that you have the items listed under “Package Contents.” Also be sure that you have the necessary cabling.

## 2 – 1 Package Contents

### Package Contents

If any of the items are missing or damaged, contact your local PCI distributor.

- BLW-04EX Broadband Router

- Power adapter

- One CAT-5 Ethernet cable

- Four rubber feet

- Quick Installation Guide

- PCI Warranty Registration Card If possible, retain the carton and original packing materials in case there is a need to return the product.

## 2 – 2 Hardware Description

Please fill out and return the Warranty Registration Card to PCI, or register on PCI's web site at [www.planex.com.tw](http://www.planex.com.tw). The BLW-04EX Broadband Router is covered by a limited lifetime warranty.

### Hardware Description

The BLW-04EX Broadband Router may be connected to the Internet or to a remote site using its RJ-45 WAN port. It may be connected directly to your PC or to a local area network using any of the four 10/100 autosensing switch ports.

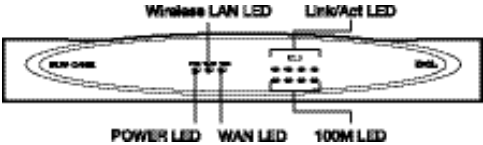
These RJ-45 ports auto-negotiate the operating speed (10/100 Mbps) and the duplex mode (half/full duplex).

Access speed to the Internet depends on your service type. Full-rate symmetric Digital Subscriber Line (ADSL) provides up to 8 Mbps downstream and 640 Kbps upstream; G.lite (or splitterless) ADSL provides up to 1.5 Mbps downstream and 512 Kbps upstream; Cable modems provide up to 36 Mbps downstream and 2 Mbps upstream. However, you should note that the actual rate provided by specific service providers may vary dramatically from these upper limits.

Though Internet access speed is determined by the modem type connected to your BLW-04EX, data passing between devices connected to your local area network can run up to 100 Mbps over the Fast Ethernet ports.

The BLW-04EX includes LED indicators on the front panel that simplify installation and network troubleshooting.

Front Panel



2-1. Front Panel

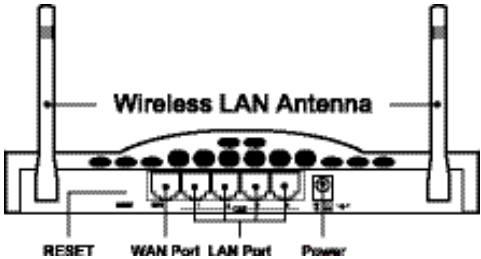
LED Indicators

The BLW-04EX includes LED indicators on the front panel that

simplify installation and network troubleshooting.

LED	Condition	Status
Power (Green)	On	BRL-04EX is receiving power.
WAN (Green)	On	The BRL-04EX has established a valid wireless connection.
WAN (Green)	On	The WAN port has established a valid network connection.
LAN		
Link (Green)	On	The indicated LAN port has established a valid network connection.
Activity (Amber)	Flashing	The indicated LAN port is transmitting or receiving traffic.

Rear Panel



2-2. Rear Panel

Item	Description
9V 1A	Connect the included power adapter to this port. Warning: Using the wrong type of power adapter may cause damage.
Reset	Use this button to reset the power or restore the default factory settings. Reboot by pushing 1 second. Return all settings to the factory defaults by pushing 5 seconds.
WAN	WAN port (RJ-45). Connect a cable modem, DSL modem, or an Ethernet router to this port.
LAN	Four 10/100 Autosensing switch ports (RJ-45). Connect devices on your local area network to these ports (such as a PC, hub, or switch).



- 1. Connect the LAN:** You can connect the BLW-04EX to your PC, or to a hub or switch. Run Ethernet cable from one of the LAN ports on the rear of the BLW-04EX to your computer's network adapter or to another network device. You can also connect the BLW-04EX to your PC (using a wireless client adapter) via radio signals. Position both antennas on the back of the BLW-04EX into the desired positions. For more effective coverage, you may want to position one antenna along the vertical axis and th

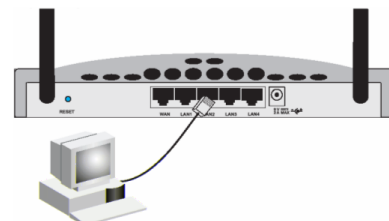
### Attach to Your Network Using Ethernet Cabling

The four LAN ports on the BLW-04EX can auto-negotiate the connection speed to 10 Mbps Ethernet or 100 Mbps Fast Ethernet, as well as the transmission mode to half-duplex or full-duplex. (See Appendix B for details on wiring.) Use twisted-pair cable to connect any of the four LAN ports on the BLW-04EX to an Ethernet adapter on your PC. Otherwise, you can cascade any of LAN ports on the BLW-04EX to an Ethernet hub or switch, and then connect your PC or other network equipment to the hub or switch. When inserting an RJ-45 plug, be sure the tab on the plug clicks into position to ensure that it is properly seated.

**Warning:** Do not plug a phone jack connector into any RJ-45 port. This may damage the BLW-04EX. Instead, use only twisted-pair cables with RJ-45 connectors that conform with FCC standards.

#### Notes:

1. Use 100-ohm shielded or unshielded twisted-pair cable with RJ-45 connectors for all connections. Use Category 3, 4 or 5 for connections that operate at 10 Mbps, and Category 5 for connections that operate at 100 Mbps.
2. Make sure each twisted-pair cable does not exceed 100 meters (328 feet).



2-4. Making LAN Connections

### Attach to Your Network Using Radio Signals

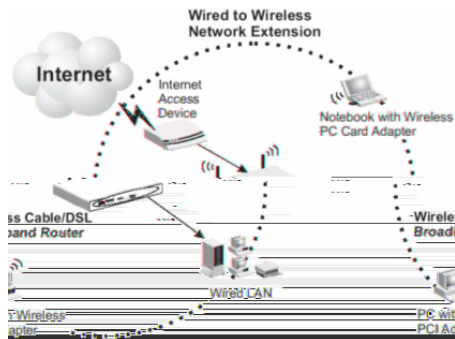
Install a wireless network adapter in each computer that will be connected to the Internet or your local network via radio signals. PCI currently offers several wireless network cards, including the GW-DS110 Wireless PCI card and the GW-NS11S Wireless PC card.

Rotate both antennas on the back of the BLW-04EX to the desired position. For more effective coverage, position one antenna along the vertical axis and the other along the horizontal axis. Try to place the BLW-04EX in a position that is located in the center of your wireless network. Normally, the higher you place the antenna, the better the performance. Ensure that the BLW-04EX's location provides optimal reception throughout your home or office.

Computers equipped with a wireless adapter can communicate with each other as an independent wireless LAN by configuring each computer to the same radio channel. However, the BLW-04EX can provide access to your wired/wireless LAN or to the Internet for all wireless workstations. Each wireless PC in this network infrastructure can talk to any computer in the wireless group via a radio link, or access other computers or network resources in the wired LAN infrastructure or over the Internet via the BLW-04EX.

The wireless infrastructure configuration not only extends the accessibility of wireless PCs to the wired LAN, but also doubles the effective wireless transmission range for wireless PCs by retransmitting incoming radio signals through the BLW-04EX.

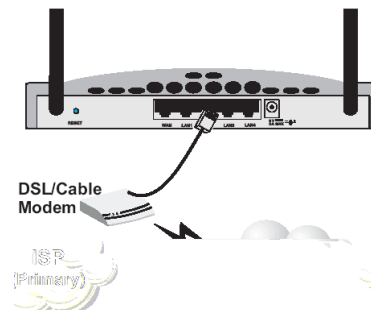
A wireless infrastructure can be used for access to a central database, or for connection between mobile workers, as shown in the following figure:



2-5. Making WLAN Connections

#### Attach the BLW-04EX to the Internet

If Internet services are provided through an xDSL or cable modem, use unshielded or shielded twisted-pair Ethernet cable (Category 3 or greater) with RJ-45 plugs to connect the broadband modem directly to the WAN port on the BLW-04EX.



2-6. Making WAN Connection

#### Note:

When connecting to the WAN port, use 100-ohm Category 3, 4 or 5 shielded or unshielded twisted-pair cable with RJ-45 connectors at both ends for all connections.

#### Connecting the Power Adapter

Plug the power adapter into the power socket on the BLW-04EX, and the other end into a power outlet. Check the indicator marked Power on the front panel to be sure it is on. If the Power indicator does not light up, refer to Troubleshooting in Appendix A.

**3 – 1** **CONFIGURING CLIENT PCS****TCP/IP Configuration**

To access the Internet through the BLW-04EX, you must configure the network settings of the computers on your LAN to use the same IP subnet as the BLW-04EX. The default network settings for the BLW-04EX are:

**IP Address: 192.168.1.1**

**Subnet Mask: 255.255.255.0**

**Note:**

These settings may be changed to suit your network requirements, but you must first configure at least one computer as described in Chapter 5 to access the BLW-04EX's web configuration interface. (See Chapter 4 for information on configuring the BLW-04EX.)

If you have not previously configured TCP/IP for your computer, refer to "Configuring Client TCP/IP" on page 5-1.

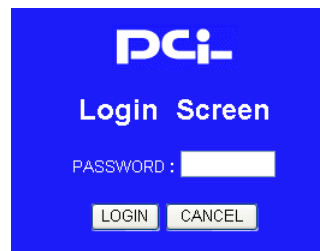
All PCs connected to the BLW-04EX must be in the same IP subnet as the BLW-04EX. The default IP address of the BLW-04EX is 192.168.1.1 (where x means 2–254) and the subnet mask is 255.255.255.0. You can set the IP address for client PCs either by automatically obtaining an IP address from the BLW-04EX's DHCP service or by manual configuration. See "Setting Up TCP/IP to Work with the BLW-04EX" on page 5-5.

After you have configured TCP/IP on a client computer, use a web browser to configure the BLW-04EX. The BLW-04EX can be configured by any Java-supported browser including Internet Explorer 4.0 or above, or Netscape Navigator 4.0 or above. Using the web management interface, you may configure the BLW-04EX and view statistics to monitor network activity.

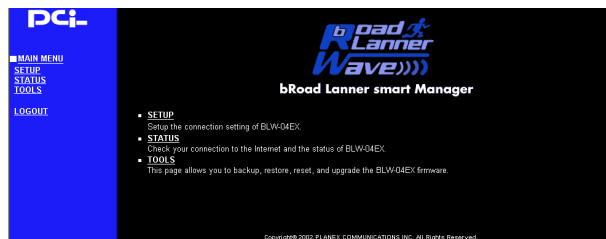
To access the BLW-04EX's management interface, enter the IP your web browser address of the BLW-04EX in `http://192.168.1.1`

**Note:**

For some browsers, it may be necessary to include `:8080` after the management IP address. For example:`http://192.168.1.1:8080`



Then click "LOGIN" (by default, there is no password).



#### 4 – 1 Navigating the Web Browser Interface

The BLW-04EX's management interface features a Setup Wizard and an Advanced Setup section. Use the Setup Wizard if you want to quickly setup the BLW-04EX for use with a cable modem or DSL modem.

Advanced setup supports more advanced functions like hacker attack detection, IP and MAC address filtering, intrusion detection, virtual server setup, virtual DMZ hosts, as well as other advanced functions.

##### Making Configuration Changes

Configurable parameters have a dialog box or a drop-down list. Once a configuration change has been made on a page, be sure to click the "Apply" or "Next" button at the bottom of the page to enable the new setting.

##### Note:

To ensure proper screen refresh after a command entry, be sure that Internet Explorer 5.0 is configured as follows: Under the menu "Tools/Internet Options/General/Temporary Internet Files/Settings," the setting for "Check for newer versions of stored pages" should be "Every visit to the page."

#### 4 – 2 Setup Wizard

##### LAN

##### LAN IP

Use the LAN menu to configure the LAN IP address for the BLW-04EX and to enable the DHCP server for dynamic client address allocation. Set a period for the lease time if required. For home networks this may be set to "Forever", which means there is no time limit on the IP address lease.

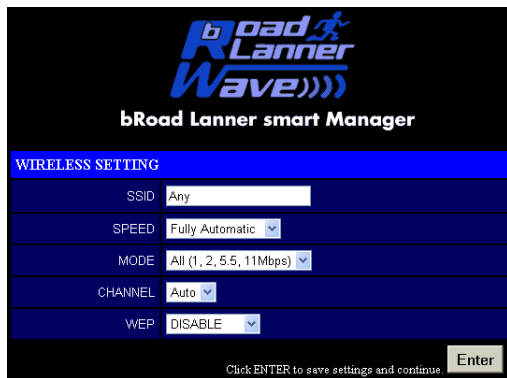
##### IP Address Pool

A dynamic IP start address may be specified by the user, e.g. 192.168.1.100 (default value). Once this start IP address has been assigned, IP addresses running from 192.168.1.100 to 192.168.1.199 will be part of the dynamic IP address pool. IP addresses from 192.168.1.2 to 192.168.1.99, and 192.168.1.200 to 192.168.1.254 will be available as static IP addresses.

Remember not to include the address of the BLW-04EX in the client address pool. Also remember to configure your client PCs for dynamic IP address allocation.

## Wireless Configuration

To configure the BLW-04EX as a wireless access point for wireless clients (either stationary or roaming), all you need to do is define the radio channel, the Service Set identifier (SSID), and encryption options.



The screenshot shows the 'bRoad Lanner smart Manager' interface with the 'WIRELESS SETTING' menu highlighted. The settings are as follows:

WIRELESS SETTING	
SSID	Any
SPEED	Fully Automatic
MODE	All (1, 2, 5.5, 11Mbps)
CHANNEL	Auto
WEP	DISABLE

At the bottom, there is a prompt: 'Click ENTER to save settings and continue' and an 'Enter' button.

You must specify a common radio channel and SSID (Service Set ID) to be used by the BLW-04EX and all of your wireless clients. Be sure you configure all of your clients to the same values.

**SSID:** The Service Set ID. This should be set to the same value as other wireless devices in your network.

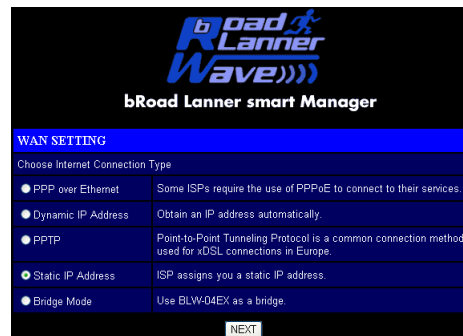
**Note:** The SSID is case sensitive and can consist of up to 32 alphanumeric characters.

## SETUP WIZARD

For accurate timing of client filtering and log events, you need to set the time zone. Select your time zone from the dropdown list. Click "Next."

### Broadband Type

Select the type of broadband connection you have.

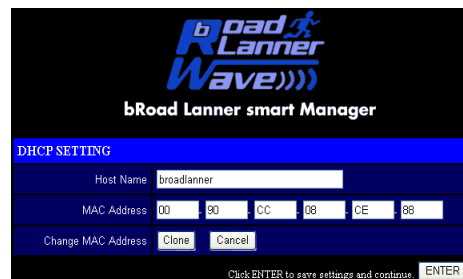


The screenshot shows the 'bRoad Lanner smart Manager' interface with the 'WAN SETTING' menu highlighted. It lists various internet connection types with radio buttons:

WAN SETTING	
Choose Internet Connection Type	
<input type="radio"/> PPP over Ethernet	Some ISPs require the use of PPPoE to connect to their services.
<input type="radio"/> Dynamic IP Address	Obtain an IP address automatically.
<input type="radio"/> PPTP	Point-to-Point Tunneling Protocol is a common connection method used for xDSL connections in Europe.
<input checked="" type="radio"/> Static IP Address	ISP assigns you a static IP address.
<input type="radio"/> Bridge Mode	Use BLW-04EX as a bridge.

At the bottom, there is a 'NEXT' button.

### Cable Modem



The screenshot shows the 'bRoad Lanner smart Manager' interface with the 'DHCP SETTING' menu highlighted. The settings are as follows:

DHCP SETTING	
Host Name	broadlanner
MAC Address	00 90 CC 08 CE 88
Change MAC Address	<input type="button" value="Clone"/> <input type="button" value="Cancel"/>

At the bottom, there is a prompt: 'Click ENTER to save settings and continue' and an 'ENTER' button.

Your ISP may have given you a host name. If so, enter it into this field.

Click “Finish” to complete the setup. The Status page will open to allow you to view the connection status, as well as other information. See “Status” on page 64 for details.

### Static IP xDSL

Some xDSL Internet Service Providers may assign a fixed (static) IP address for your gateway. If you have been provided with this information, choose this option and enter the assigned IP address, subnet mask, gateway IP, and DNS IP addresses for the BLW-04EX.

Click “Finish” to complete the setup. The Status page will open to allow you to view the connection status, as well as other information. See “Status” on page 64 for details.

### PPP over Ethernet

Enter the PPPoE user name and password assigned by your Service Provider. The Service Name is normally optional, but may be required by some service providers.

Leave the Maximum Transmission Unit (MTU) on the default value (1492) unless you have a particular reason to change it.

Enter a Maximum Idle Time (in minutes) to define a maximum period of time for which the Internet connection is maintained during inactivity. If the connection is inactive for longer than the Maximum Idle Time, it will be dropped. Enable the Auto-reconnect option to automatically re-establish the connection as soon as you attempt to access the Internet again.



Bridge Mode



Use your BLW-04EX as a Bridge.

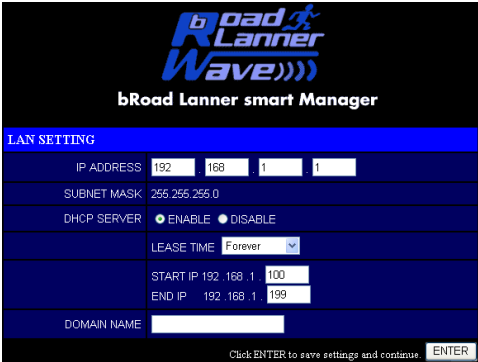
Basic Setting

Use the web management interface to define system parameters, manage and control the BLW-04EX and its ports, or monitor network conditions. The following table outlines the selections available from this program.

Cable Types and Specifications			
Cable	Type	Max. Length	Connector
10BASE-T	Cat. 3, 4, 5 UTP 100m	100-ohm (328 ft)	RJ-45
100BASE-TX	Cat. 5 UTP 100m	100-ohm (328 ft)	RJ-45

Menu	Description
Status	<p>Provides WAN connection type and status, firmware and hardware version numbers, system IP settings, as well as DHCP, NAT, Firewall info.</p> <p>Displays the number of attached clients, the firmware versions, the physical MAC address for each media interface, and the hardware version and serial number.</p> <p>Shows the security and DHCP client log.</p>
Tools	<p>Contains options to backup &amp; restore the current configuration, restore all configuration settings to the factory defaults, update system firmware, or reset the system.</p>

Basic Setting  
LAN



LAN IP

Use the LAN menu to configure the LAN IP address for the BLW-04EX and to enable the DHCP server for dynamic client address allocation. Set a period for the lease time if required. For home networks this may be set to “Forever”, which means there is no time limit on the IP address lease.

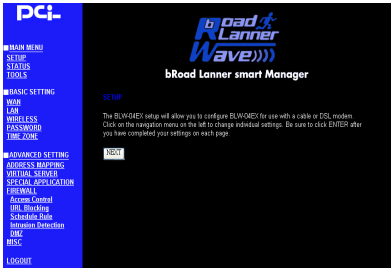
IP Address Pool

A dynamic IP start address may be specified by the user, e.g. 192.168.1.100 (default value). Once this start IP address has been assigned, IP addresses running from 192.168.1.100 to 192.168.1.199 will be part of the dynamic IP address pool. IP addresses from 192.168.1.2 to 192.168.1.199, and 192.168.1.200 to 192.168.1.254 will be available as static IP addresses.

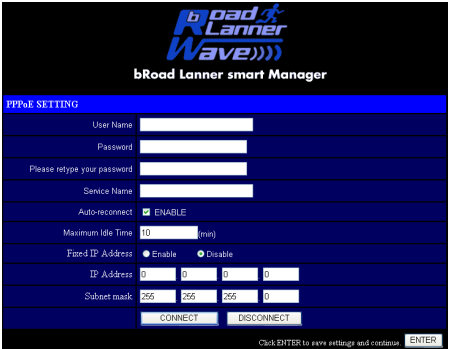
Remember not to include the address of the BLW-04EX in the client address pool. Also remember to configure your client PCs for dynamic IP address allocation.

WAN

Specify the WAN connection type provided by your Internet Service Provider, then click “More Configuration” to enter detailed configuration parameters for the selected connection type.



PPP over Ethernet

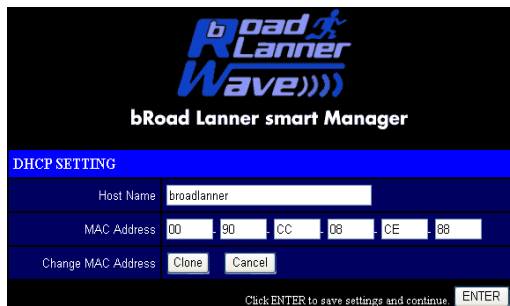


Enter the PPPoE user name and password assigned by your Service Provider. The Service Name is normally optional, but may be required by some service providers.

The MTU (Maximum Transmission Unit) governs the maximum size of the data packets. Leave this on the default value (1492) unless you have a particular reason to change it.

Enter a Maximum Idle Time (in minutes) to define a maximum period of time for which the Internet connection is maintained during inactivity. If the connection is inactive for longer than the Maximum Idle Time, it will be dropped. Enable the Auto-reconnect option to automatically re-establish the connection when an application attempts to access the Internet again.

## Dynamic IP



**bRoad Lanner smart Manager**

**DHCP SETTING**

Host Name:

MAC Address:

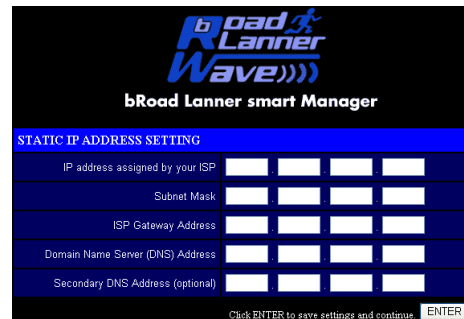
Change MAC Address:

Click ENTER to save settings and continue.

The Host Name is optional, but may be required by some ISPs. The default MAC address is set to the WAN's physical interface on the BLW-04EX. Use this address when registering for Internet service, and do not change it unless required by your ISP. If your ISP used the MAC address of an Ethernet card as an identifier when first setting up your broadband account, connect only the PC with the registered MAC address to the BLW-04EX and click the "Clone MAC Address" button. This will replace the current BLW-04EX MAC address with the already registered Ethernet card MAC address.

If you are unsure of which PC was originally set up by the broadband technician, call your ISP and request they register a new MAC address for your account. Register using the default BLW-04EX MAC address.

## Static IP Address Setting



**bRoad Lanner smart Manager**

**STATIC IP ADDRESS SETTING**

IP address assigned by your ISP:

Subnet Mask:

ISP Gateway Address:

Domain Name Server (DNS) Address:

Secondary DNS Address (optional):

Click ENTER to save settings and continue.

If your Internet Service Provider has assigned a fixed IP address, enter the assigned address and subnet mask for the BLW-04EX, then enter the gateway address of your ISP. You may need a fixed address if you want to provide Internet services, such as a web server, or FTP server.

## Bridge Mode



**bRoad Lanner smart Manager**

**BRIDGE MODE SETTING**

IP Address:

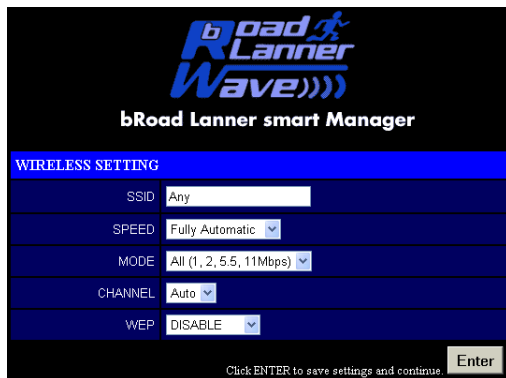
SUBNET MASK:

Click ENTER to save settings and continue.

Use your BLW-04EX as a Bridge.

## Wireless Configuration

To configure the BLW-04EX as a wireless access point for wireless clients (either stationary or roaming), all you need to do is define the radio channel, the Service Set identifier (SSID), and encryption options.

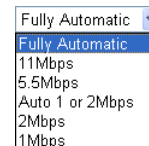


You must specify a common radio channel and SSID (Service Set ID) to be used by the BLW-04EX and all of your wireless clients. Be sure you configure all of your clients to the same values.

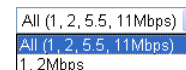
**SSID:** The Service Set ID. This should be set to the same value as other wireless devices in your network.

**Note:** The SSID is case sensitive and can consist of up to 32 alphanumeric characters.

**Transmission Rate:** Set the data rate transmitted from the BLW-04EX. The lower the data rate, the longer the transmission distance. (Default: Fully Automatic)



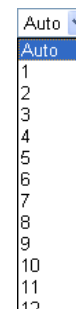
**Basic Rate:** Select “All (1, 2, 5.5, 11Mbps)” from the drop-down list to optimize the data transfer speed for your network. (Default: 1, 2Mbps)



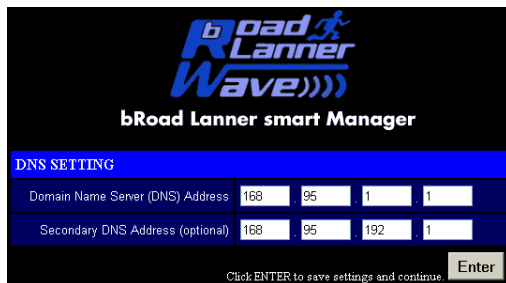
**Channel:** The radio channel through which the BLW-04EX communicates to PCs in its BSS. (Default: “Auto”)

### Note:

The available channel settings are limited to local regulations, which determine the number of channels that are available.



## Encryption



**bRoad Lanner smart Manager**

**DNS SETTING**

Domain Name Server (DNS) Address	168	95	1	1
Secondary DNS Address (optional)	168	95	192	1

Click ENTER to save settings and continue. **Enter**

If you are transmitting sensitive data across wireless channels, you should enable Wired Equivalent Privacy (WEP) encryption.

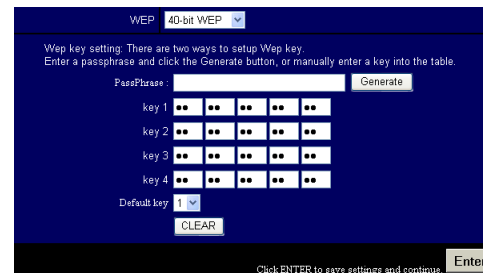
Encryption requires you to use the same set of encryption/decryption keys for the BLW-04EX and all of your wireless clients. You can choose between standard 64-bit or the more robust 128-bit encryption keys.



WEP

- DISABLE
- DISABLE
- 40-bit WEP
- 128-bit WEP

You can automatically generate encryption keys or you can manually enter the keys. For automatic 64-bit security, you enter a passphrase that is used to create four keys (as shown below). The automatic 128-bit security generates a single key by entering a passphrase.



WEP 40-bit WEP

Wep key setting: There are two ways to setup Wep key.  
Enter a passphrase and click the Generate button, or manually enter a key into the table.

PassPhrase:  **Generate**

key 1:

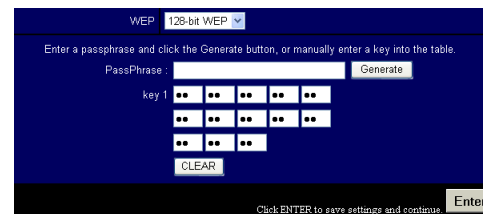
key 2:

key 3:

key 4:

Default key: 1 **CLEAR**

Click ENTER to save settings and continue. **Enter**



WEP 128-bit WEP

Enter a passphrase and click the Generate button, or manually enter a key into the table.

PassPhrase:  **Generate**

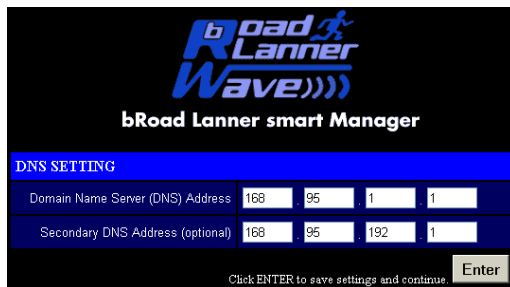
key 1:

**CLEAR**

Click ENTER to save settings and continue. **Enter**

If you use encryption, configure the same keys used for the BLW-04EX on each of your wireless clients. Note that the Wired Equivalent Privacy (WEP) protects data transmitted between wireless nodes, but does not protect any transmissions over your wired network or over the Internet.

## DNS



**bRoad Lanner smart Manager**

**DNS SETTING**

Domain Name Server (DNS) Address	168	95	1	1
Secondary DNS Address (optional)	168	95	192	1

Click ENTER to save settings and continue.

Domain Name Servers map numerical IP addresses to the equivalent domain name (e.g., www.planex.com.tw). Your ISP should provide the IP address of one or more domain name servers. Enter those addresses on this screen.

## Password Settings



**bRoad Lanner smart Manager**

**PASSWORD SETTING**

Current Password	<input type="text"/>
New Password (3-12 Characters)	<input type="text"/>
Re-Enter Password for Verification	<input type="text"/>

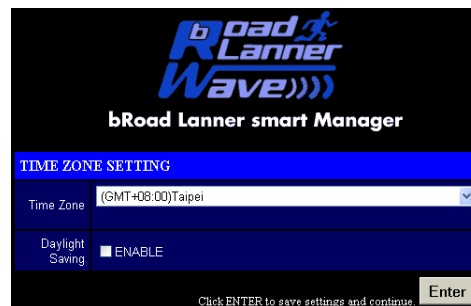
Click ENTER to save settings and continue.

Use this menu to restrict access based on a password. By default, there is no password. For security you should assign one before exposing the BLW-04EX to the Internet.

Passwords can contain from 3–12 alphanumeric characters and are not case sensitive.

If your password is lost, or you cannot gain access to the user interface, press the Reset button on the rear panel (holding it down for at least five seconds) to restore the factory defaults (default is “0000”).

## Time Zone



**bRoad Lanner smart Manager**

**TIME ZONE SETTING**

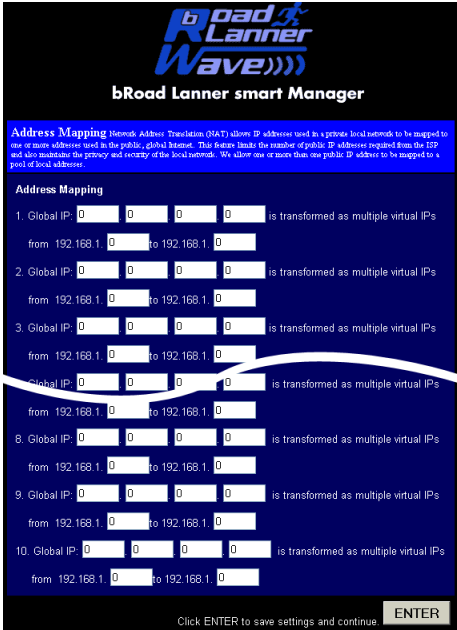
Time Zone	(GMT+08:00)Taipei
Daylight Saving	<input type="checkbox"/> ENABLE

Click ENTER to save settings and continue.

Sets the time zone for the BLW-04EX. This information is used for log entries and client access control.

4 – 3 ADVANCED SETTING

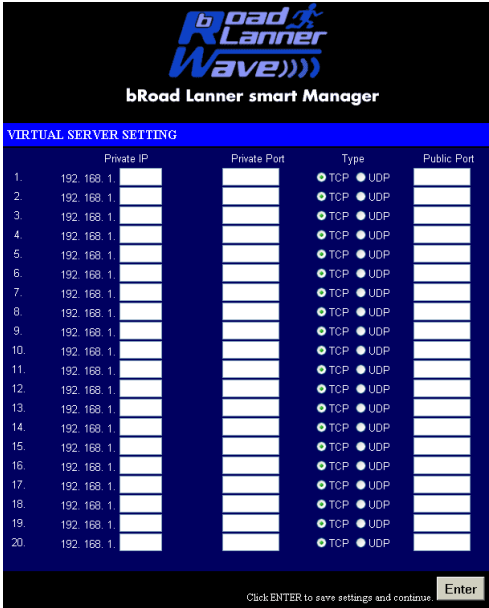
Address Mapping



The screenshot shows the 'bRoad Lanner smart Manager' interface with the 'Address Mapping' section selected. It features a title bar with the logo and a descriptive paragraph about NAT. Below this, there are ten rows for configuring address mapping. Each row includes a 'Global IP' field (a 4-digit decimal input), a description 'is transformed as multiple virtual IPs', and a 'from' field (a range of 4-digit decimal inputs). At the bottom, there is an 'ENTER' button and a prompt 'Click ENTER to save settings and continue'.

Allows one or more public IP addresses to be shared by multiple internal users. Enter the Public IP address you wish to share into the “Global IP” field. Enter a range of internal IPs that will share the global IP into the “from” field.

Virtual Server



The screenshot shows the 'bRoad Lanner smart Manager' interface with the 'VIRTUAL SERVER SETTING' section selected. It features a table with four columns: 'Private IP', 'Private Port', 'Type', and 'Public Port'. The table has 20 rows, each with a number in the first column. The 'Private IP' column contains the value '192.168.1.' followed by a 1-digit decimal input. The 'Private Port' column contains a 4-digit decimal input. The 'Type' column contains radio buttons for 'TCP' and 'UDP'. The 'Public Port' column contains a 4-digit decimal input. At the bottom, there is an 'Enter' button and a prompt 'Click ENTER to save settings and continue'.

If you configure the BLW-04EX as a virtual server, remote users accessing services such as web or FTP at your local site via public IP addresses can be automatically redirected to local servers configured with private IP addresses. In other words, depending on the requested service (TCP/UDP port number), the BLW-04EX redirects the external service request to the appropriate internal server and port.

The WAN interface should have a fixed IP address to properly utilize this function. For example, if you set Type/Public Port to TCP/80 (HTTP or web) and the Private IP/Port to 192.168.1.2/8080, then all HTTP requests from outside users will be transferred to port 8080 on 192.168.1.2. Therefore, by just entering the IP Address provided by the ISP, Internet users can access the service you provide at the internal address and port to which the BLW-04EX redirects them.

Some of the more common TCP service ports include:

HTTP: 80, FTP: 21, Telnet: 23 and POP3: 110.

### Security Settings Firewall

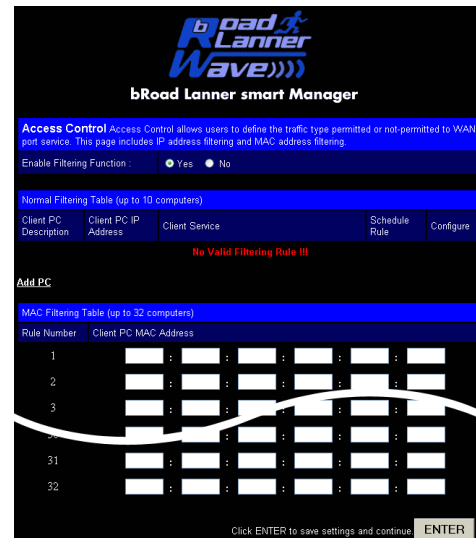
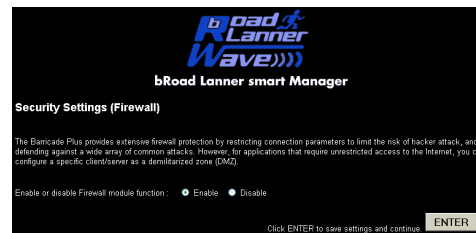
The firewall does not significantly affect system performance, so we advise enabling it to protect your network users. Select “Enable” and click the “APPLY” button to open the Firewall submenus.

The BLW-04EX’s firewall can provide the access control of connected client PCs, block common hacker attacks, including IP Spoofing, Land Attack, Ping of Death, IP with zero length, Smurf Attack, UDP port loopback, Snork Attack, TCP null scan, and TCP SYN flooding. The firewall does not significantly affect system performance, so we advise leaving it enabled to protect your network users.

#### Note:

When you select the “Enable” radio button of the “Enable or disable Firewall module function” field, be sure to press the “APPLY” button.

### Access Control



Using this option allows you to specify different privileges for the client PCs.



The following items are included in the “Access Control” screen:

Field	Description
Normal Filtering Table	Displays the IP address and filtering status of the connected client PC
MAC Filtering Table	Displays the MAC address of the client PC Allows you to set the IP address of an
Remote Management	administrator for a remote management

#### Note:

When you select the “Enable” radio button of the “Enable or disable Firewall module function” field, be sure to press the “APPLY” button.

#### URL Blocking

**bRoad Lanner smart Manager**

**Access Control Add PC** This page allows users to define service limitation of client PC, including IP address, service type and scheduling criteria. For URL blocking function, you need config URL address first in “URL Blocking Site” page. For scheduling function, you also need config schedule rule first in “Schedule Rule” page.

Client PC Description: [Text Field]

Client PC IP Address: 192.168.1. [Text Field] - 0

**Client PC Service:**

Service Name	Detail Description	Blocking
WWW	HTTP, TCP Port 80, 3128, 8000, 8080, 8081	<input type="checkbox"/>
WWW with URL Blocking	HTTP (Ref. URL Blocking Site Page)	<input type="checkbox"/>
E-mail Sending	SMTP, TCP Port 25	<input type="checkbox"/>
News	NNTP, TCP Port 119	<input type="checkbox"/>
E-mail Receiving	POP3, TCP Port 110	<input type="checkbox"/>
Secure HTTP	HTTPS, TCP Port 443	<input type="checkbox"/>

**User Define Service:**

Protocol: ☒ TCP ☐ UDP

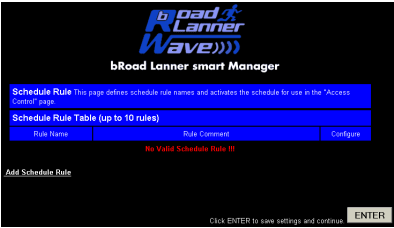
Port Range: [Text Field] - [Text Field] [Text Field] - [Text Field] [Text Field] - [Text Field]

Scheduling Rule (Ref. Schedule Rule Page): Always Blocking

OK Cancel

Using the above screen to block access to the Web sites specified in the table.

Schedule Rule

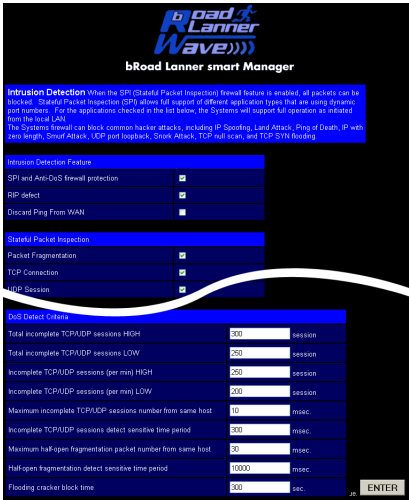


You can filter Internet access for local clients based on the “Rule Name,” and time of day.

1. Click on “Add Schedule Rule”
2. Define the appropriate settings for a schedule rule (as shown in the following screen).
3. Click “OK” and then the “APPLY” button to save your settings. (as shown on previous page)



Intrusion Detection



The Intrusion Detection feature of the BLW-04EX limits the access of the incoming traffic from the WAN port. When the SPI feature is turned on, all the incoming packets will be blocked unless certain types of traffic types are checked by the users. When the user checks certain types of traffic, only the particular type of traffic initiated from the Internal LAN will be allowed. For example, if the user only checks “FTP service” from the Stateful Packet Inspection heading, all the incoming traffic will be blocked except the FTP connection initiated from the local LAN.

### Stateful Packet Inspection

This option allows you to select different application types that are using dynamic port numbers. If you need to use the Stateful Packet Inspection (SPI) for blocking packets, check the radio button in the “Enable SPI and Anti-DoS firewall protection” field and then check the inspection type that you need, such as Packet Fragmentation, TCP Connection, UDP Session, FTP Service, H.323 Service and TFTP Service.

### Hacker Prevention Feature

The BLW-04EX firewall inspects packets at the application layer, and maintains TCP and UDP session information, including timeouts and number of active sessions, provides the ability to detect and prevent certain types of network attacks such as DoS attacks.

Network attacks that deny access to a network device are called denial-of-service (DoS) attacks. Denials of Service (DoS) attacks are aimed at devices and networks with a connection to the Internet. Their goal is not to steal information, but to disable a device or network so users no longer have access to network resource.

By using the above inspected information and timeout/threshold criteria, the BLW-04EX provides the following DoS attack preventions: Ping of Death (Ping flood) attack, SYN flood attack, IP fragment attack (Teardrop Attack), Brute-force attack, Land Attack, IP Spoofing attack, IP with zero length, TCP null scan (Port Scan Attack), UDP port loopback, Snork Attack etc.

#### Note:

The firewall does not significantly affect system performance, so we advise enabling the prevention features to protect your network users.

When hackers attempt to enter your network, we can alert you by e-mail  
Enter your E-mail address for alerting hacker access. Specify your E-mail servers, user name and password.

Connection Policy Enter the appropriate values for TCP/UDP sessions

DoS Criteria and Port Scan Criteria Setup DoS and port scan criteria in the spaces provided.

### DMZ (Demilitarized Zone)

**bRoad Lanner smart Manager**

**DMZ SETTING**

DMZ Function: ☒ ENABLE ☐ DISABLE

	WAN IP ADDRESS	LAN IP ADDRESS
1.	210.85.228.20	192.168.1.0
2.	0 0 0 0	192.168.1.0
3.	0 0 0 0	192.168.1.0
4.	0 0 0 0	192.168.1.0
5.	0 0 0 0	192.168.1.0
6.	0 0 0 0	192.168.1.0
7.	0 0 0 0	192.168.1.0
8.	0 0 0 0	192.168.1.0

Click ENTER to save settings and continue **Enter**

If you have a client PC that cannot run an Internet application properly from behind the firewall, then you can open the client up to unrestricted two-way Internet access. Enter the IP address of a DMZ host to this screen. Adding a client to the DMZ (Demilitarized Zone) may expose your local network to a variety of security risks, so only use this option as a last resort.

## 4 – 4 MISC Setting



Allows a remote PC to configure, manage, and monitor the BLW-04EX using a standard web browser. Check “Enable” and enter the IP address of the remote host. Click “APPLY.”

### Note:

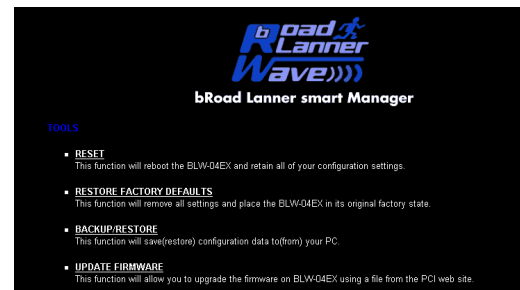
If you specify an IP address of 0.0.0.0, any host can manage the BLW-04EX.

### Main Menu

#### Tools

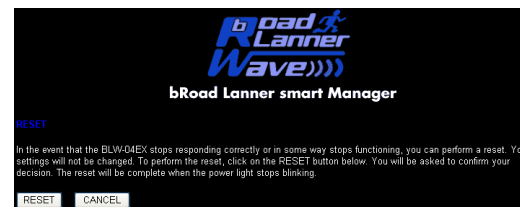
Use the “Tools” menu to backup the current configuration, restore a previously saved configuration, restore factory settings, update firmware, and reset the BLW-04EX.

### Configuration Tools



Choose a function and click.

### Reset



Click “Apply” to reset the BLW-04EX. The reset will be complete when the power LED stops blinking.

### Note:

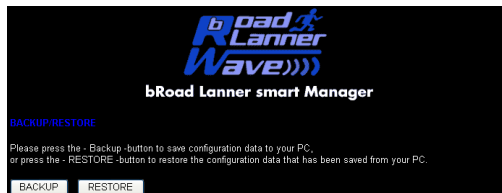
If you use the Reset button on the rear panel, the BLW-04EX performs a power reset. If the button is held depressed for over 5 seconds, all the LEDs will illuminate and the factory settings will be restored.

## RESTORY DEFAULT



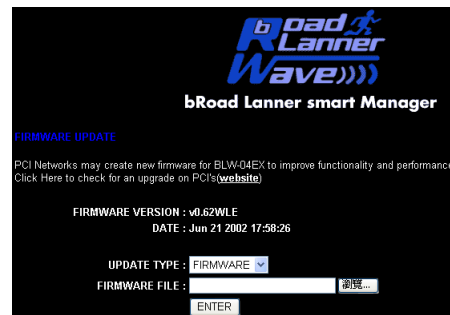
You can click the Reset to Default button to reset the settings of this device to the default values.

## BACKUP/RESTORE



Backup allows you to save the BLW-04EX's configuration to a file. You can then check "Restore" to restore the saved backup configuration file. "Restore to factory defaults" resets the Baricade to the original settings.

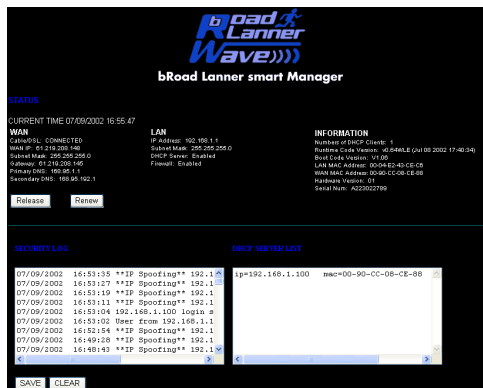
## Firmware Upgrade



This tool permits easy downloading of the latest Firmware. Download the upgrade file from the PCI website ([www.planex.com.tw](http://www.planex.com.tw)) and save it to your hard drive. Browse for the file and then click "Apply". Check the Status page Information section to confirm that the upgrade process was successful.

## Status

The Status screen displays WAN/LAN connection status, firmware, and hardware version numbers, illegal attempts to access your network, as well as information on DHCP clients connected to your network.



## Status

The following items are included on this screen:

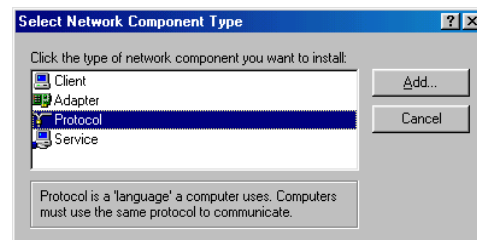
Section	Description
INTERNET	Displays WAN connection type and status.
GATEWAY	Displays system IP settings, as well as DHCP and Firewall status.
INFORMATION	Displays the number of attached clients, the firmware versions, the physical MAC address for each media interface, as well as the hardware version and serial number.
Security Log	Displays illegal attempts to access your network.
Save	Click on this button to save a security log file.
Clear	Click on this button to delete the access log.
Refresh	Click on this button to refresh the screen.
DHCP Client Log	Displays information on all DHCP clients on your network.
Release	Click on this button to confirm Dynamic settings.
Renew	Click on this button to refresh Dynamic settings.

If you have not previously installed the TCP/IP protocols on your client PCs, refer to the following section. If you need information on how to configure a TCP/IP address on a PC, refer to “Setting Up TCP/IP to Work with the BLW-04EX” on page 5-5.

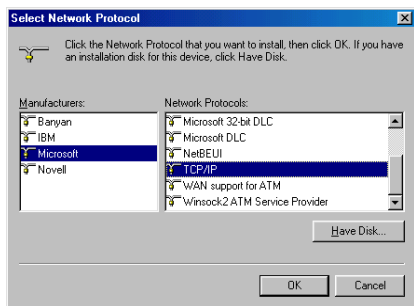
## 5 – 1 Installing TCP/IP

### Windows 95/98/ME

1. Click “Start/Settings/Control Panel.”
2. Double-click the Network icon and select the “Configuration” tab in the Network window.
3. Click the “Add” button.
4. Double-click “Protocol.”



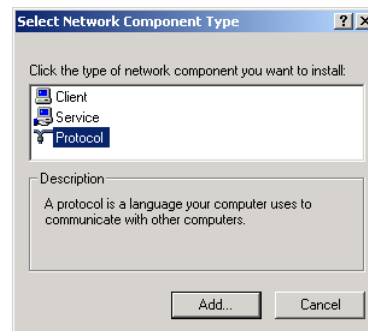
5. Select "Microsoft" in the manufacturers list. Select "TCP/IP" in the Network Protocols list. Click the "OK" button to return to the Network window.



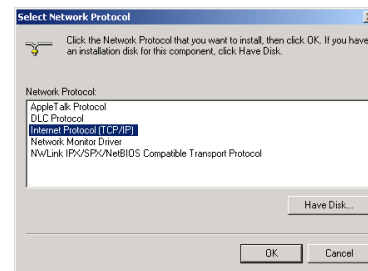
6. The TCP/IP protocol will be listed in the Network window. Click "OK" to complete the installation procedure and restart your PC to enable the TCP/IP protocols. The operating system may prompt you to restart your system. Click "Yes" and the computer will shut down and restart

## Windows 2000

1. Click the "Start" button and choose "Settings," then click "Control Panel."
2. Double click the "Network and Dial-up Connections" icon, then "Local Area Connection" icon, and press the "Properties" button in the "General" tab.
3. Click the "install..." button to add the network component to your PC.
4. Double click on "Protocol" to add the TCP/IP protocol.



5. Choose "Internet Protocol (TCP/IP)" in the Network Protocols. Click the "OK" button to return to the Network window.

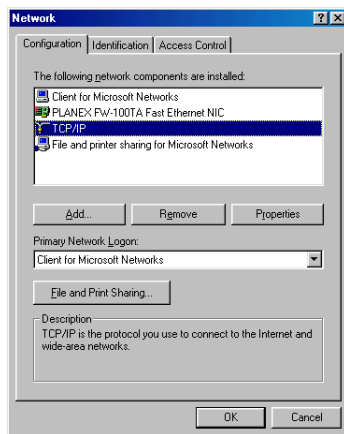


6. The TCP/IP protocol will be listed in the Network window. Click "OK" to complete the install procedure.

## 5 – 2 Setting Up TCP/IP to Work with the BLW-04EX

### Windows 95/98/ME

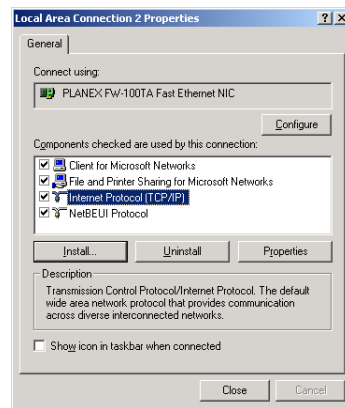
1. Click “Start/Settings/Control Panel.”
2. Double-click the Network icon. Highlight the TCP/IP line that has been assigned to your network card on the “Configuration” tab of the Network window.



3. Click the “Properties” button.
4. You may dynamically assign TCP/IP address settings to a client, or you can manually configure a client with address settings to meet your specific network requirements. (Note that the default IP address of the BLW-04EX is 192.168.1.1.)

### Windows 2000

1. Click the “Start” button and choose “Settings,” then click “Control Panel.”
2. Double click the “Network and Dial-up Connections” icon, then “Local Area Connection” icon, and press the “Properties” button in the “General” tab.
3. Select the TCP/IP line that has been assigned to your network card in the “Local Area Connection Properties” window.
4. Click the “Properties” button to set the TCP/IP protocol for the BLW-04EX.

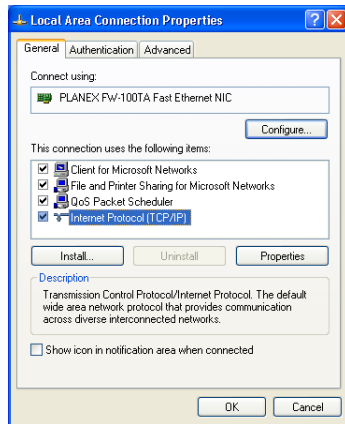


5. You can dynamically assign TCP/IP address settings to a client, or you can manually configure a client with address settings to meet your specific network requirements. (Note that the default IP address of the BLW-04EX is 192.168.1.1.)



## Windows XP

1. Click the “start” button and choose “Control Panel.”
2. Select the “Network and Internet Connections” icon, then click the “Network Connections” icon, and double click on the “LAN or High-Speed Internet.”
3. Press the “Properties” button in the “General” tab.
4. Select the TCP/IP line that has been assigned to your network card in the “Local Area Connection Properties” window.
5. Click the “Properties” button to set the TCP/IP protocol for the BLW-04EX.



6. You can dynamically assign TCP/IP address settings to a client, or you can manually configure a client with address settings to meet your specific network requirements. (Note that the default IP address of the BLW-04EX is 192.168.1.1.)

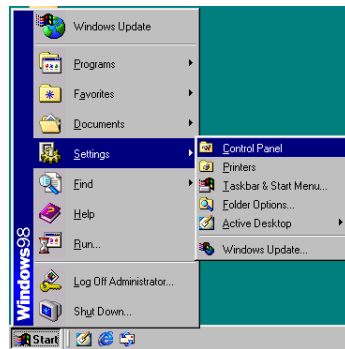
## Configuring Your Computer with Windows 95/98/ME

You may find that the instructions here do not exactly match your version of Windows. This is because these steps and screenshots were created in Windows 98. Windows 95 and Windows Millennium Edition are very similar, but not identical, to Windows 98.

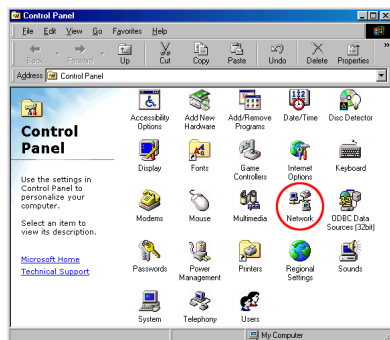
### Step 1. Configure TCP/IP Settings

After you have completed the hardware setup by connecting your devices, you need to configure the computer to connect to the BLW-04EX. You need to determine how your ISP issues your IP address. Many ISPs issue these numbers automatically using a networking technology known as Dynamic Host Control Protocol, or DHCP. Other ISPs will specify your IP address and associated numbers, which you must enter manually. This is also known as a static IP address. How your ISP assigns your IP address determines how you will configure your computer.

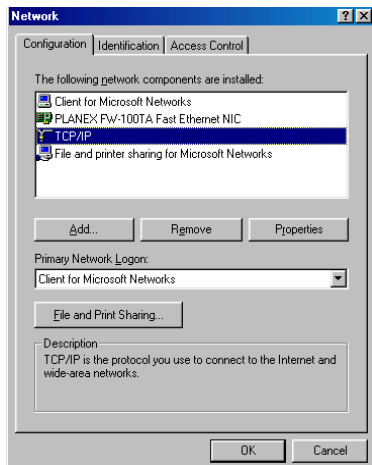
1. From the Windows desktop, click “Start/Settings/Control Panel.”



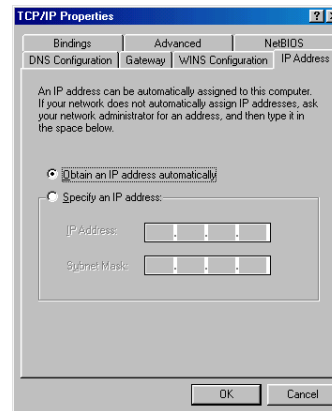
2. Double-click the “Network” icon.



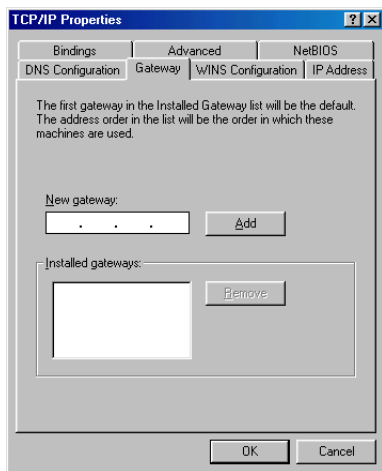
3. On the “Network” window “Configuration” tab, double-click the “TCP/IP” entry for your network card.



4. Click the “IP Address” tab. If “Obtain an IP address automatically” is already checked, your computer is already configured for DHCP. Click “Cancel” to close each window, and skip to “Step 2. Disable HTTP Proxy” on page 5-12.

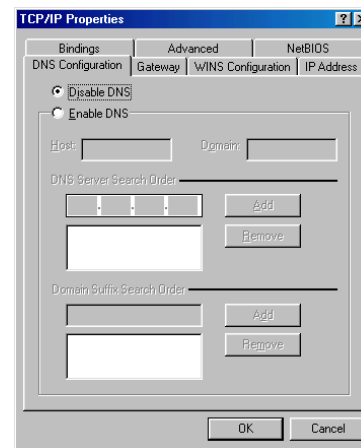


5. Make a note of the current IP Address and Subnet Mask (a space is



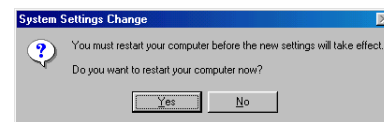
provided on the next page).

6. Click the “Gateway” tab and record the numbers listed under “Installed gateways.”
7. Click the “DNS Configuration” tab. Record the DNS servers listed under “DNS Server Search Order.”
8. Click the “IP Address” tab and then check “Obtain an IP address



automatically.” Click “OK.”

9. Windows may need your Windows 95/98/ME CD to copy some files. After it finishes copying, it will then prompt you to restart your system.



Click “Yes” and the computer will shut down and restart.

### TCP/IP Configuration Setting

IP Address \_\_\_\_\_

Subnet Mask \_\_\_\_\_

Primary DNS Server \_\_\_\_\_

Secondary DNS Server \_\_\_\_\_

Default Gateway \_\_\_\_\_

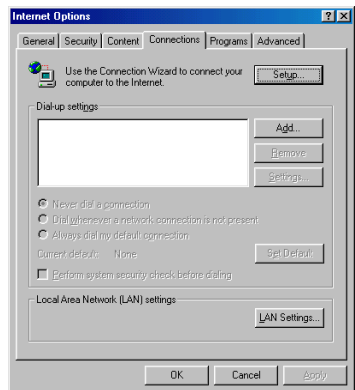
## Step 2. Disable HTTP Proxy

You will need to verify that the “HTTP Proxy” feature of your web browser is disabled. This is so that your web browser will be able to view the configuration pages inside your BLW-04EX. The following steps are for Internet Explorer and for Netscape. Determine which browser you use and follow the appropriate steps.

### Internet Explorer

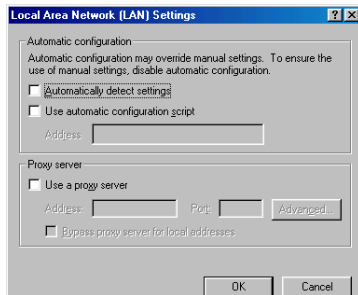


1. Open Internet Explorer. Click “Tools/Internet Options.”
2. In the “Internet Options” window, click the “Connections” tab. Click the



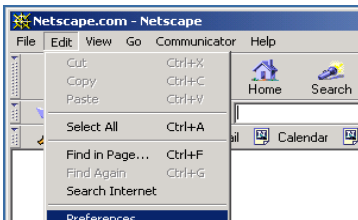
“LAN Settings” button.

3. Clear all the check boxes and click “OK”. Click “OK” again to close the



“Internet Options” window.

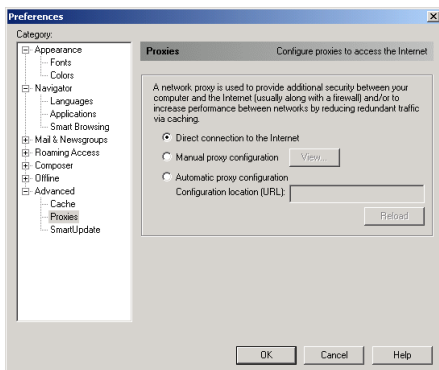
### Netscape



1. Open Netscape. Click “Edit,” then click “Preferences.”
2. In the “Preferences” window, under “Category,” double-click “Advanced,” then click “Proxies.” Check “Direct connection to the

Internet.” Click “OK”.

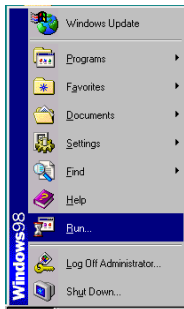
3. Repeat these steps for each Windows 95/98/ME computer connected to



your BLW-04EX.

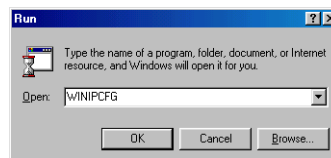
### Step 3. Obtain IP Settings from Your BLW-04EX

Now that you have configured your computer to connect to your Wireless Barricade, it needs to obtain new network settings. By releasing old IP settings and renewing them with settings from your BLW-04EX, you will also verify that you have configured your computer correctly.



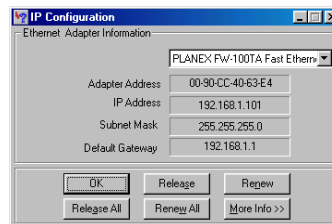
1. Click “Start/Run.”

2. Type “WINIPCFG” and click “OK.” It may take a minute or two for the



“IP Configuration” window to appear.

3. From the dropdown menu, select your network card. Click “Release” and then “Renew.” Verify that your IP address is now 192.168.1.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168. 2.1. These values confirm that your BLW-04EX is functioning. Click “OK” to



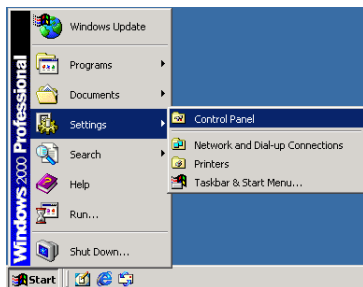
close the “IP Configuration” window.

## Configuring Your Computer in Windows 2000

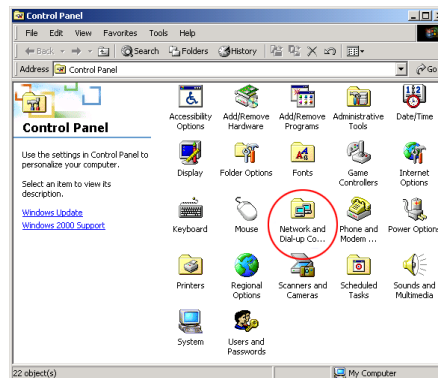
### Step 1. Configure TCP/IP Settings

After you have completed the hardware setup, you need to configure your computer to connect to the BLW-04EX. You also need to determine how your ISP issues your IP address. Many ISPs issue these addresses automatically, using a networking technology known as Dynamic Host Configuration Protocol, or DHCP. Other ISPs will specify your IP address and associated numbers, which you must enter manually. This is also known as a static IP address. How your ISP assigns your IP address determines how you will configure your computer.

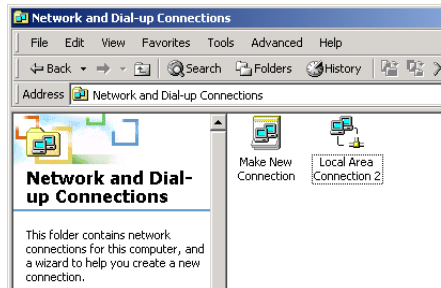
Here is what to do:



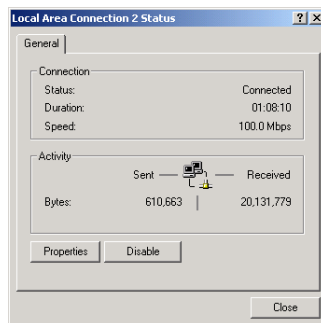
1. From the Windows desktop, click “Start/ Settings/Control Panel.”



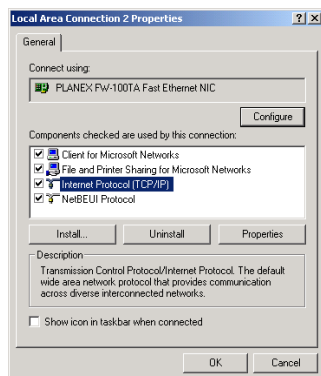
2. Double-click the “Network and Dial-up Connections” icon.



3. Double-click the icon that corresponds to the connection to your BLW-04EX.



4. Click "Properties."



5. Double-click "Internet Protocol (TCP/IP)."

6. All the information that you need to record is on the "Internet Protocol (TCP/IP) Properties" screen. Use the table on the next page to record the information. If "Obtain an IP address automatically" and "Obtain DNS server address automatically" are already checked, your computer is already configured for DHCP. Click "Cancel" to close each window, and skip to "Step 2. Disable HTTP Proxy" on page 5-18.

7. Check "Obtain an IP address automatically" and check "Obtain DNS server address automatically." Click "OK." Click "OK" or "Close" to close each window.

#### TCP/IP Configuration Setting

IP Address	_____
Subnet Mask	_____
Primary DNS Server	_____
Secondary DNS Server	_____
Default Gateway	_____

#### Step 2. Disable HTTP Proxy

You will need to verify that the "HTTP Proxy" feature of your web browser is disabled. This is so that your web browser will be able to view the configuration pages inside the BLW-04EX. The following steps are for Internet Explorer and for Netscape. Determine which browser you

use and follow the appropriate steps.

### Internet Explorer

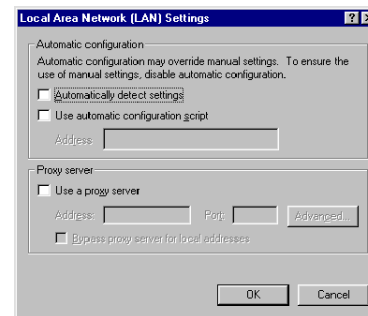


1. Open Internet Explorer. Click “Tools/Internet Options.”
2. In the “Internet Options” window, click the “Connections” tab. Next,

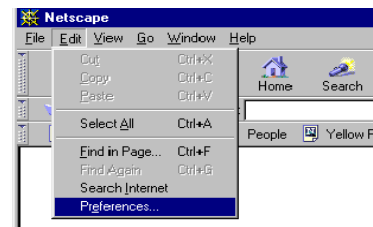


click the “LAN Settings” button.

3. Clear all the checkboxes.
4. Click “OK,” and then click “OK” again to close the “Internet Options” window.

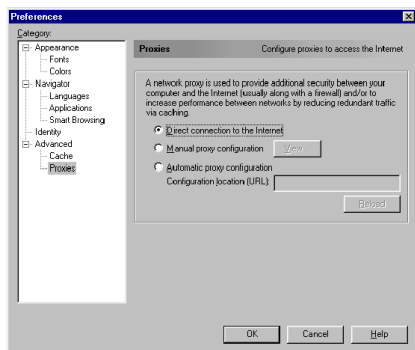


### Netscape



1. Open Netscape. Click “Edit,” then click “Preferences.”
2. In the “Preferences” window, under “Category” double-click “Advanced,” then click “Proxies.” Select “Direct connection to the



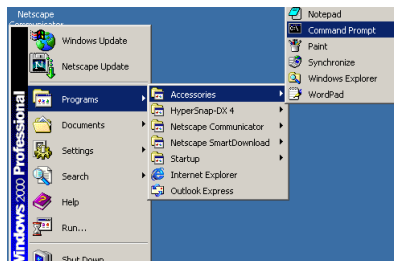


Internet.” Click “OK.”

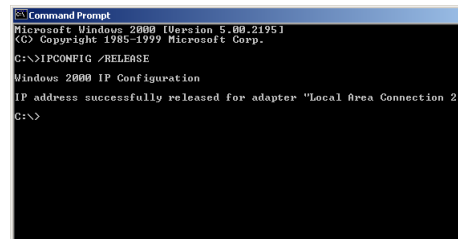
### Step 3. Obtain IP Settings From Your BLW-04EX

Now that you have configured your computer to connect to your BLW-04EX, it needs to obtain new network settings. By releasing old IP settings and renewing them with settings from your BLW-04EX, you will also verify that you have configured your computer correctly.

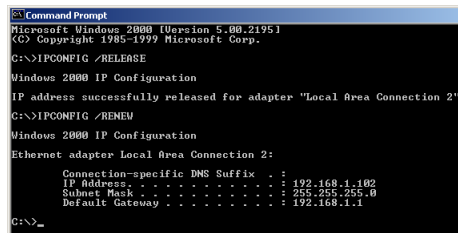
1. From the Windows desktop, click “Start/ Programs/ Accessories/ Command Prompt.”



2. In the “Command Prompt” window, type “IPCONFIG /RELEASE” and press the <ENTER> key.



3. Type “IPCONFIG /RENEW” and press the <ENTER> key. Verify that your IP address is now 192.168.1.xxx (2-254), your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.1.1. These values confirm that your BLW-04EX is functioning.



4. Type “EXIT” and press <ENTER>.

## Configuring Your Computer with Windows XP

### Step 1. Configure TCP/IP Settings

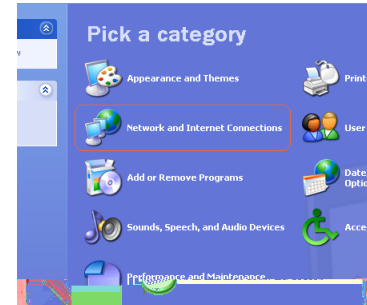
After you have completed the hardware setup, you need to configure your computer to connect to your BLW-04EX. You also need to determine how your ISP issues your IP address. Many ISPs issue these numbers automatically, using a networking technology known as Dynamic Host Configuration Protocol, or DHCP. Other ISPs will specify your IP address and associated numbers, which you must enter manually. This is also known as a static IP address. How your ISP assigns your IP address determines how you will configure your computer.

Here is what to do:

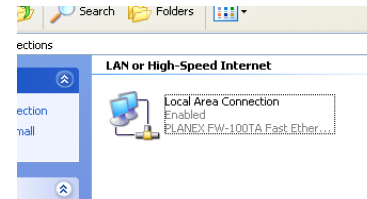
1. From the Windows desktop, click the “start” button. Choose “Control Panel.”



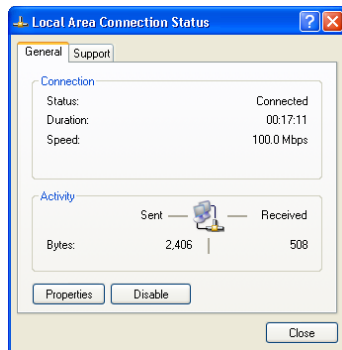
2. Select the “Network and Internet Connections” icon, then click the “Network Connections” icon.



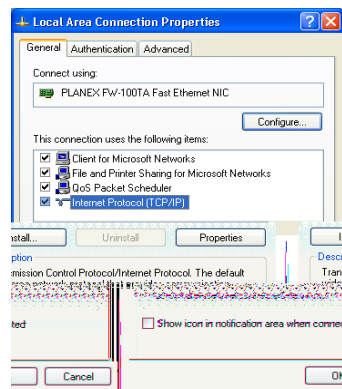
3. Double click on the “LAN or High-Speed Internet.”



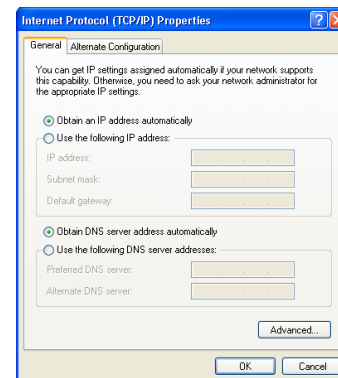
4. Click “Properties.”



5. Double-click “Internet Protocol (TCP/IP).”



6. All the information that you need to record is on the “Internet Protocol (TCP/IP) Properties” dialog box. Use the spaces below to record the information.



If “Obtain an IP address automatically” and “Obtain DNS server address automatically” are already selected, your computer is already configured for DHCP. Click “Cancel” to close each window, and skip to “Step 2. Disable HTTP Proxy” on page 5-25.

7. Select “Obtain an IP address automatically” and then select “Obtain DNS server address automatically.” Then click “OK.” Click “OK” or “Close” to close each window.

### TCP/IP Configuration Setting

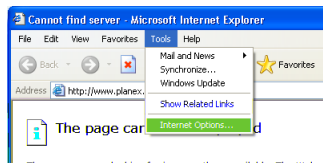
IP Address	_____ . _____ . _____ . _____
Subnet Mask	_____ . _____ . _____ . _____
Primary DNS Server	_____ . _____ . _____ . _____
Secondary DNS Server	_____ . _____ . _____ . _____
Default Gateway	_____ . _____ . _____ . _____

## Step 2. Disable HTTP Proxy

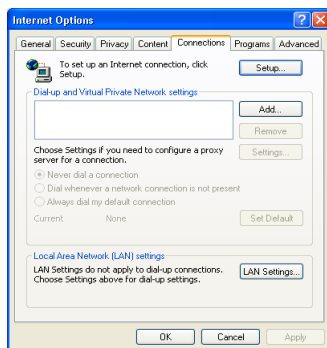
You will need to verify that the “HTTP Proxy” feature of your Web browser is disabled. This is so that your Web browser will be able to view the configuration pages inside your BLW-04EX. The following steps are for Internet Explorer and for Netscape. Determine which browser you use and follow the appropriate steps.

### Internet Explorer

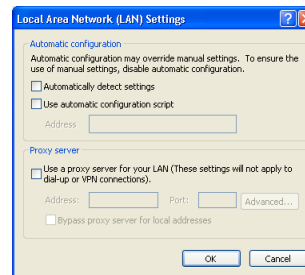
1. Open Internet Explorer and click the stop button. Click “Tools,” then “Internet Options.”



2. In the “Internet Options” window click the “Connections” tab. Next, click the “LAN Settings...” button.



3. Clear all the checkboxes.

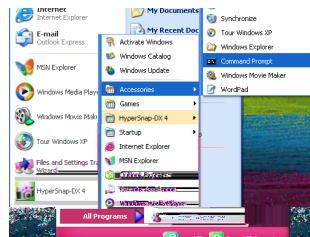


4. Click “OK,” and then click “OK” again to close the “Internet Options” Windows.

## Step 3. Obtain IP Settings From Your BLW-04EX

Now that you have configured your computer to connect to your BLW-04EX, it needs to obtain new network settings. By releasing any old IP settings and renewing them with settings from your BLW-04EX, you will also verify that you have configured your computer correctly.

1. From the Windows desktop, click the “Start” button, then “Programs,” then “Accessories,” and then click “Command Prompt.”



- In the “Command Prompt” window, type “IPCONFIG /RELEASE” and press the <ENTER> key.



```

C:\>ipconfig /release

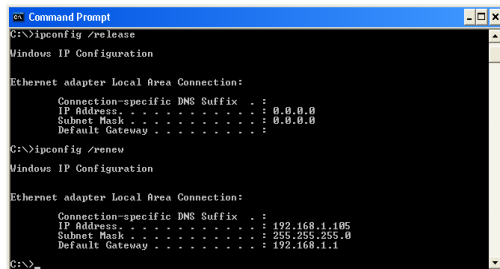
Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 0.0.0.0
    Subnet Mask . . . . . : 0.0.0.0
    Default Gateway . . . . . : 

C:\>_
  
```

- Type “IPCONFIG /RENEW” and press the <ENTER> key. Verify that your IP address is now 192.168.1.xxx (2-255), your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.1.1. These values confirm that your BLW-04EX is functioning.



```

C:\>ipconfig /release

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 0.0.0.0
    Subnet Mask . . . . . : 0.0.0.0
    Default Gateway . . . . . : 

C:\>ipconfig /renew

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 192.168.1.105
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1

C:\>_
  
```

- Type “EXIT” and press <ENTER> to close the “Command Prompt” window.

## Configuring Your Computer with Windows NT 4.0

### Step 1. Configure TCP/IP Settings

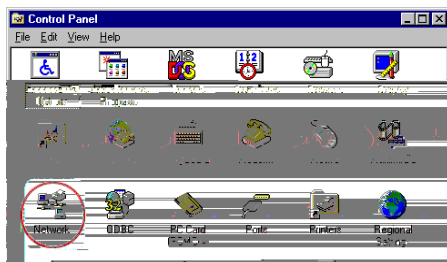
After you have completed the hardware setup, you need to configure your computer to connect to your BLW-04EX. You need to determine how your ISP issues your IP address. Many ISPs issue these numbers automatically using a networking technology known as Dynamic Host Configuration Protocol, or DHCP. Other ISPs will specify your IP address and associated numbers, which you must enter manually. This is known as a static or fixed IP address. How your ISP assigns your IP address determines how you will configure your computer.

Here is what to do:

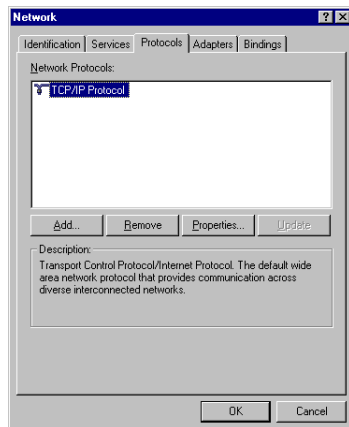
- From the Windows desktop click “Start/ Settings/Control Panel.”



2. Double-click the “Network” icon.



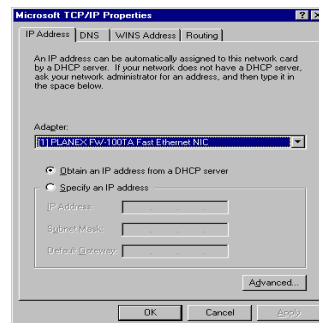
3. Click on the “Protocols” tab.



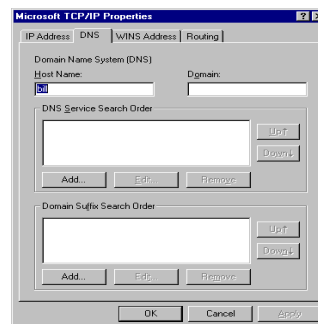
4. Double-click “TCP/ IP Protocol.”

5. Click on the “IP Address” tab.

6. In the “Adapter” dropdown list, be sure your Ethernet adapter is selected.



7. If “Obtain an IP address automatically” is already checked, your computer is already configured for DHCP. Click “Cancel” to close each window, and skip to “Step 2. Disable HTTP Proxy” on page 5-32. In the “TCP/IP Properties” dialog box, click the IP address tab to locate your IP Address, Subnet Mask, and Default Gateway. Record these values in the space provided below.



8. Click the “DNS” tab to see the primary and secondary DNS servers. Record these values in the appropriate spaces below.
9. After writing down your IP settings, click the “IP address” tab. Check “Obtain IP address automatically” and click “OK.” Click “OK” again to close the “Network” window.
10. Windows may copy files and will then prompt you to restart your system. Click “Yes” and your computer will shut down and restart.

### TCP/IP Configuration Setting

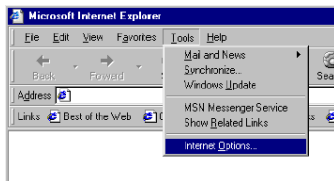
IP Address                    \_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_  
 Subnet Mask                \_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_  
 Primary DNS Server        \_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_  
 Secondary DNS Server     \_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_  
 Default Gateway           \_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_.\_\_\_\_\_

### Step 2. Disable HTTP Proxy

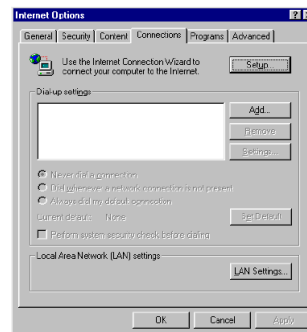
You will need to verify that the “HTTP Proxy” feature of your web browser is disabled. This is so that your web browser will be able to view the BLW-04EX configuration pages. The following steps are for Internet Explorer and for Netscape. Determine which browser you use and follow the appropriate steps.

### Internet Explorer

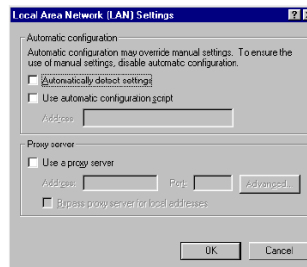
1. Open Internet Explorer. Click “Tools/Internet Options.”



2. In the “Internet Options” window, click the “Connections” tab. Next, click “LAN Settings.”



3. Clear all the checkboxes.
4. Click “OK,” and then click “OK” again to close the “Internet Options” window.

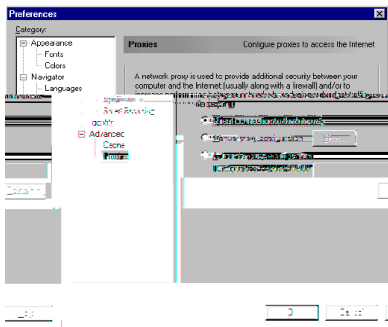


## Netscape

1. Open Netscape. Click “Edit,” then click “Preferences...”



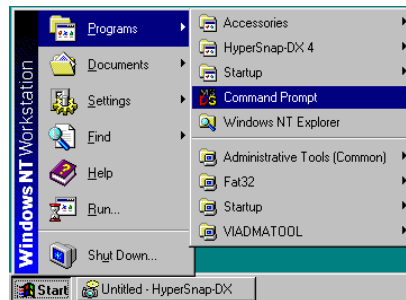
2. In the “Preferences” window, under “Category” double-click “Advanced,” then click “Proxies.” Check “Direct connection to the Internet.” Click “OK.”



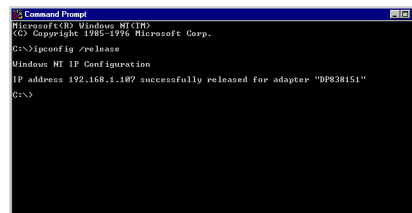
## Step 3. Obtain IP Settings From Your BLW-04EX

Now that you have configured your computer to connect to your BLW-04EX, it needs to obtain new network settings. By releasing old IP settings and renewing them with settings from the BLW-04EX, you will also verify that you have configured your computer correctly.

1. On the Windows desktop, click “Start/ Programs/Command Prompt.”



2. In the “Command Prompt” window, type “IPCONFIG / RELEASE” and press the <ENTER> key.





3. Type “IPCONFIG /RENEW” and press the <ENTER> key. Verify that your IP Address is now 192.168.1.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.1.1. These values confirm that the BLW-04EX is functioning.

```

Microsoft Windows [C:\WINDOWS\system32\cmd.exe]
C:\WINDOWS\system32>ipconfig /release

Windows NT IP Configuration
IP address 192.168.1.107 successfully released for adapter "D9838151"

C:\WINDOWS\system32>ipconfig /renew

Windows NT IP Configuration
Ethernet adapter D9838151:

    IP Address. . . . . : 192.168.1.107
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1

C:\WINDOWS\system32>

```

4. Type “EXIT” and press <ENTER> to close the “Command Prompt” window.

## Configuring Your Macintosh Computer

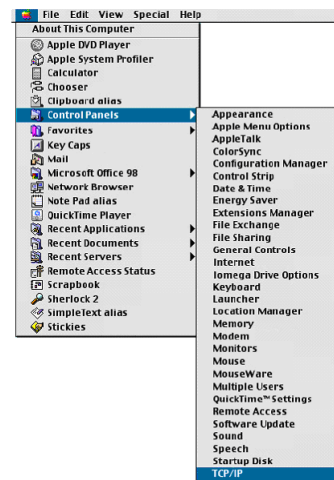
You may find that the instructions here do not exactly match your screen. This is because these steps and screenshots were created using Mac OS 8.5. Mac OS 7.x and above are all very similar, but may not be identical to Mac OS 8.5.

### Step 1. Configure TCP/IP Settings

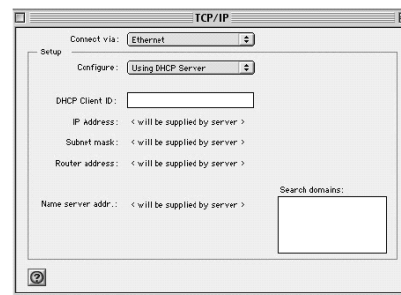
After you have completed the hardware setup, you need to configure your computer to connect to the BLW-04EX. You need to determine how your ISP issues your IP address. Many ISPs issue these numbers automatically using a networking technology known as Dynamic Host Configuration Protocol, or DHCP. Other ISPs will specify your IP address and associated numbers, which you must enter manually. This is also known as a static IP address. How your ISP assigns your IP address determines how you will configure your computer.

Here is what to do:

1. Pull down the Apple Menu. Click “Control Panels” and select TCP/IP.

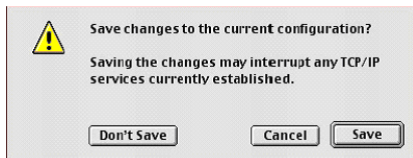


2. In the TCP/IP dialog box, make sure that “Ethernet” is selected in the “Connect Via:” field.



If “Using DHCP Server” is already selected in the “Configure” field, your computer is already configured for DHCP. Close the TCP/IP dialog box, and skip to Step 2 Disable HTTP Proxy (bottom of this page).

- All the information that you need to record is on the “TCP/IP” dialog box. Use the space below to record the information.
- After writing down your IP settings, select “Using DHCP Server” in the “Configure” field and close the window.
- Another box will appear asking whether you want to save your TCP/IP settings. Click “Save”.



#### TCP/IP Configuration Setting

IP Address                    \_\_\_\_\_

Subnet Mask                \_\_\_\_\_

Router                      \_\_\_\_\_

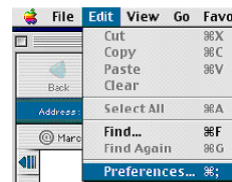
Name Server                \_\_\_\_\_

#### Step 2. Disable HTTP Proxy

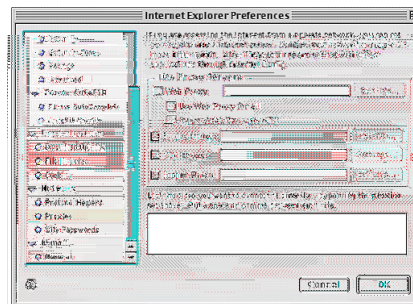
You will need to verify that the “HTTP Proxy” feature of your web browser is disabled. This is so that your web browser will be able to view the BLW-04EX configuration pages. The following steps are for Internet Explorer and for Netscape. Determine which browser you use and follow the appropriate steps.

#### Internet Explorer

- Open Internet Explorer. Click “Edit/ Preferences.”



- In the Internet Explorer “Preferences” window, under “Network,” select “Proxies.”



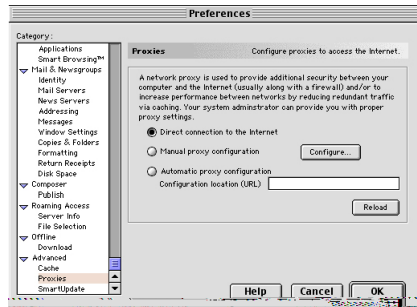
- Uncheck all checkboxes and click “OK.”

## Netscape

1. Open Netscape. Click “Edit/Preferences.”



2. In the column labeled “Category,” select “Advanced.” Under the “Advanced” category, select “Proxies.”

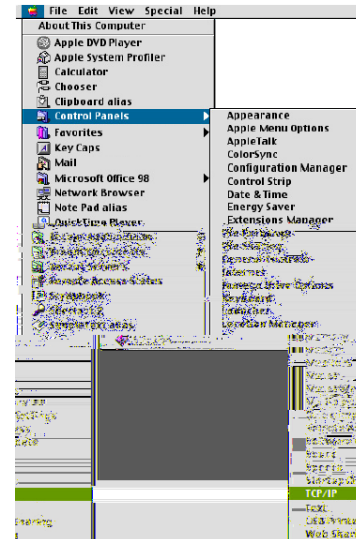


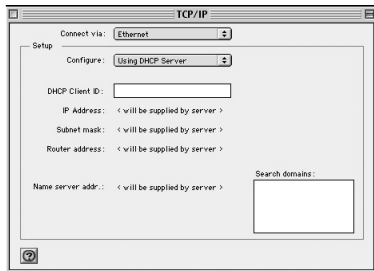
3. Select “Direct Connection to the Internet” and click “OK.”

## Step 3. Obtain IP Settings From Your BLW-04EX

Now that you have configured your computer to connect to your BLW-04EX, it needs to obtain new network settings. By releasing old IP settings and renewing them with settings from the BLW-04EX, you will also verify that you have configured your computer correctly.

1. Pull down the Apple Menu. Click “Control Panels” and “TCP/IP.”

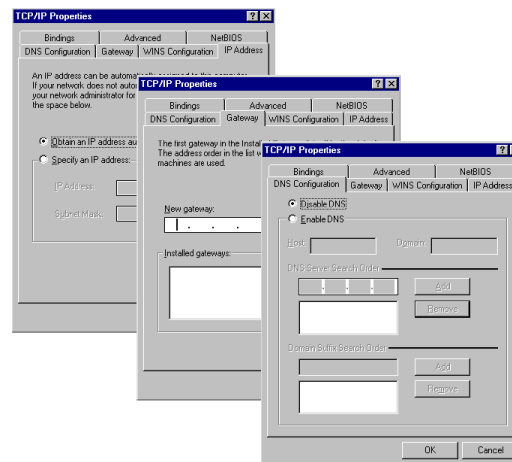




2. In the TCP/IP window, your new settings will be shown. Verify that your IP address is now 192.168.1.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.1.1. These values confirm that your BLW-04EX is functioning.
3. Close the TCP/IP window.

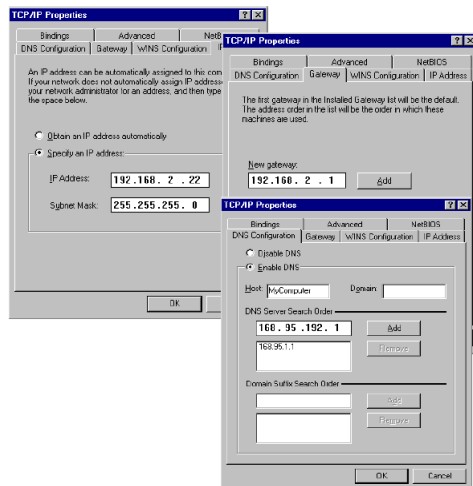
### Dynamic IP Allocation via a DHCP Server

Check “Obtain an IP address automatically” on the IP Address tab. Do not input any values under the Gateway tab, and check “Disable DNS” on the “DNS Configuration” tab. These settings will be automatically configured by the DHCP server. Click “OK” and reboot your system to implement the changes.



## Manual IP Configuration

1. Check “Specify an IP address” on the IP Address tab. Enter an IP address based on the default network 192.168.1.x (where x is between 2 and 254), and use 255.255.255.0 for the subnet mask.
2. On the “Gateway” tab, add the IP address of the BLW-04EX (default: 192.168.1.1) in the “New gateway” field and click “Add.”
3. On the “DNS Configuration” tab, add the IP address for the BLW-04EX and click “Add.” This automatically relays DNS requests to the DNS server(s) provided by your ISP. Otherwise, add specific DNS servers into the “DNS Server Search Order” field and click “Add.”



4. After finishing TCP/IP setup, click “OK,” and then reboot the computer. After that, set up other PCs on the LAN according to the procedures described above.

## Verifying Your TCP/IP Connection

After installing the TCP/IP communication protocols and configuring an IP address in the same network as the BLW-04EX, use the “Ping” command to check if your computer has successfully connected to the BLW-04EX. The following example shows how the Ping procedure can be executed in an MS-DOS window. First, execute the “Ping” command:

### ping 192.168.1.1

If a message similar to the following appears:

#### Pinging 192.168.1.1 with 32 bytes of data:

**Reply from 192.168.1.1: bytes=32 time=2ms TTL=64**

a communication link between your computer and the BLW-04EX has been successfully established.

If you get the following message,

#### Pinging 192.168.1.1 with 32 bytes of data:

**Request timed out.**

there may be something wrong in your installation procedure. Check the following items in sequence:

1. Is the Ethernet cable correctly connected between the BLW-04EX and the computer?  
The LAN LED on the BLW-04EX and the Link LED of the network card on your computer must be on.
2. Is TCP/IP properly configured on your computer?

If the IP address of the BLW-04EX is 192.168.1.1, the IP address of your PC must be from 192.168.1.2 - 192.168.1.254 and the default gateway must be 192.168.1.1.

If you can successfully Ping the BLW-04EX you are now ready to connect to the Internet!

This appendix describes common problems you may encounter and possible solutions to them. The BLW-04EX can be easily monitored through panel indicators to identify problems. If you cannot resolve any connection problems after checking the indicators, then refer to the other sections in the following table.

Troubleshooting Chart	
Symptom	Action
LED Indicators	
Power LED is OFF	<ul style="list-style-type: none"><li>• External power supply has failed or is disconnected.</li><li>• Check connections between the BLW-04EX, the external power supply, and the wall outlet.</li><li>• If the power indicator does not light when the power cord is plugged in, you may have a problem with the power outlet, power cord, or external power supply. If the unit powers off after running for a while, check for loose power connections, power losses, or surges at the power outlet. If you cannot isolate the problem, then the external power supply may be defective. In this case, contact PCI Technical Support for assistance.</li></ul>

## TROUBLESHOOTING

Troubleshooting Chart	
Symptom	Action
LED Indicators	
Link LED is OFF	<ul style="list-style-type: none"> <li>• Verify that the BLW-04EX and attached device are powered on.</li> </ul>
	<ul style="list-style-type: none"> <li>• Be sure the cable is plugged into both the BLW-04EX and the corresponding device.</li> <li>• Verify that the proper cable type is used and that its length does not exceed the specified limits.</li> <li>• Be sure that the network interface on the attached device is configured for the proper communication speed and duplex mode.</li> <li>• Check the adapter on the attached device and cable connections for possible defects. Replace any defective adapter or cable if necessary.</li> </ul>
Network Connection Problems	
Cannot Ping the BLW-04EX from the attached LAN, or the BLW-04EX cannot Ping any device on the attached LAN	<ul style="list-style-type: none"> <li>• Verify that the IP addresses are properly configured. For most applications, you should use the BLW-04EX's DHCP function to dynamically assign IP addresses to clients on the LAN. However, if you manually configure IP addresses on the LAN, verify that the same network address (network component of the IP address) and subnet mask are used for both the BLW-04EX and the LAN devices.</li> <li>• Be sure the device you want to Ping (and the device from which you are Pinging) have been configured for TCP/IP.</li> </ul>

## TROUBLESHOOTING

Troubleshooting Chart	
Symptom	Action
Management Problems	
Cannot connect using the web browser	<ul style="list-style-type: none"> <li>• Be sure to have configured the BLW-04EX with a valid IP address, subnet mask, and default gateway.</li> <li>• Check that you have a valid network connection to the BLW-04EX and that the port you are using has not been disabled.</li> <li>• Check the network cabling between the management station and the BLW-04EX.</li> </ul>
Forgot or lost the password	<ul style="list-style-type: none"> <li>• Press the Reset button on the front panel (holding it down for at least five seconds) to restore the factory defaults.</li> </ul>
Printer Server	
The printer cannot print, or prints garbage	Make sure the parallel cable between the BLW-04EX and printer is connected and is in good condition.

**CABLES****Ethernet Cable****Specifications**

Cable Types and Specifications			
Cable	Type Max.	Length	Connector
10BASE-T	Cat. 3, 4, 5 UTP 100 m	100-ohm (328 ft)	RJ-45
100BASE-TX	Cat. 5 UTP 100 m	100-ohm (328 ft)	RJ-45

**Twisted-pair Cable**

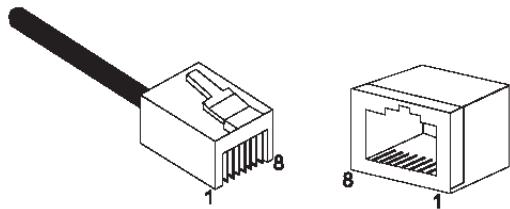
Caution: Do NOT plug a phone jack connector into any RJ-45 port. Use only twisted-pair cables with RJ-45 connectors that conform with FCC standards.

For 10BASE-T/100BASE-TX connections, a twisted-pair cable must have two pairs of wires. Each wire pair is identified by different colors. For example, one wire might be red and the other, red with white stripes. Also, an RJ-45 connector must be attached to both ends of the cable.



CABLES

Figure B-1 illustrates how the pins on the RJ-45 connector are numbered. Be sure to hold the connectors in the same orientation when attaching the wires to the pins.



B-1. RJ-45 Connector Pin Numbers

Straight-through Cable

Straight-Through RJ-45 Pin Assignments	
End 1	End 2
1 (TD+)	1 (TD+)
2 (TD-)	2 (TD-)
3 (RD+)	3 (RD+)
6 (RD-)	6 (RD-)

Pins 4, 5, 7, and 8 are not connected.

Crossover Cable

Crossover RJ-45 Pin Assignments	
End 1	End 2
1 (TD+)	3 (RD+)
2 (TD-)	6 (RD-)
3 (RD+)	1 (TD+)
6 (RD-)	2 (TD-)

Pins 4, 5, 7, and 8 are not connected.

RJ-45 Port Pin Assignments

Pin	MDI Signal Name*	MDI-X Signal Name*
1	Transmit Data (TD+)	Receive Data (RD+)
2	Transmit Data (TD-)	Receive Data (RD-)
3	Receive Data (RD+)	Transmit Data (TD+)
6	Receive Data (RD-)	Transmit Data (RD-)

Pins 4, 5, 7, and 8 are not connected.

\* The “+” and “-” signs represent the polarity of the wires that make up each wire pair.

**Standards**

IEEE 802.3 10BaseT Ethernet

IEEE 802.3u 100BaseTX FastEthernet

**WAN Interface**

10BASE-T/100BASE-TX

**LAN Interfaces**

10BASE-T/100BASE-TX

4 RJ-45 ports

LAN data transfer rate is up to 10/20Mbps (10BaseT half/full duplex) or 100/200Mbps (100BaseTX with half/full duplex)

**Management**

Browser-based management

Both DHCP Server and Client provided

**Advanced Features**

Dynamic IP Address Configuration – DHCP, DNS

Firewall – Client privileges, hacker prevention, logging

Virtual Server via NAT & NAPT

Virtual Private Network – PPTP, L2TP, IPSec pass-through

Intrusion Detection, Email Alerting, Parental Control

**Indicator Panel**

LAN (Link, Activity), WAN (Link, Activity), Power

**Dimensions**

130 mm x 85 mm x 32 mm (5.12 x 3.35 x 1.26 in)

**Weight**

370 g (4.73 oz)

**SPECIFICATIONS**

**Input Power**

9 V 1A

**Maximum Current**

0.04A RMS max.@110V/240V

**Power Consumption**

5 Watts max. @ 100-240 VAC

**Temperature**

Operating 0 to 40°C (32 to 104°F)

Storage -40 to 70°C -40 to 158°F (-40 to 158°F)

**Humidity**

5% to 95% (noncondensing)

**Compliances**

CE Mark BSMI

Emissions

FCC Class B

VCCI Class B